

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1-24. (Canceled.)

25. (Currently Amended) Process for the treatment of wooden elements, said process comprising the following steps:

- a) conditioning said wooden elements to reduce their moisture content; and
- b) performing one of the following sequences of steps selected from the group consisting of at least the sequence of steps b1) to b4) or at least the sequence of steps bb1) to bb2);

said sequence of steps b1) to b4) at least comprising:

- b1) impregnating the wooden elements obtained from step a) with at least one water-borne wood preservative,
- b2) heating the wooden elements obtained from step b1) at a temperature of at least 51° C, to fix said wood preservative(s) in said wooden elements;
- b3) impregnating the wooden elements obtained from step b2) with a solution comprising polymerizable reactive groups having a reactive double bond, identical or different, that will form a polymer under polymerizing condition in the absence of a thermo-initiator, and

b4) subjecting the wooden elements obtained from step b3) to polymerizing condition in the absence of a thermo-initiator to polymerize said reactive group(s);

said sequence of steps bb1) to bb2) at least comprising:

bb1) impregnating the wooden elements obtained from step a) with a mixture comprising at least one water-borne wood preservative and polymerizable reactive groups having a reactive double bond, identical or different, that will form a polymer under polymerizing condition in the absence of a thermo-initiator, and

bb2) heating the wooden elements obtained from step bb1) in the absence of a thermo-initiator at a temperature of at least 51°C to fix said wood preservative(s) and to polymerize said reactive groups.

26. (Currently Amended) Process according to claim 25, wherein ~~it~~ the process comprises the following steps:

a) conditioning said wooden elements to reduce their moisture content; and

b1) impregnating the wooden elements obtained from step a) with at least one water-borne wood preservative,

b2) heating the wooden elements obtained from step b1) at a temperature of at least 51° C, to fix said wood preservative(s) in said wooden elements,

b3) impregnating the wooden elements obtained from step b2) with a polymerizing solution comprising reactive groups having a reactive double bond, identical or different, that will form a polymer under polymerizing condition, and at least one water-borne wood preservative, identical to or different than the one of step b1), and

b4) subjecting the wooden elements obtained from step b3) to polymerizing condition to polymerize said reactive group(s).

27. (Currently Amended) Process according to claim 25, wherein ~~it~~ the process comprises the following steps:

bb1) impregnating the wooden elements obtained from step a) with a mixture comprising at least one water-borne wood preservative and polymerizable reactive groups having a reactive double bond, identical or different, that will form a polymer under polymerizing condition, and

bb2) heating the wooden elements obtained from step bb1) at a temperature of at least 51°C to fix said wood preservative(s) and to polymerize said reactive groups.

28. (Previously Presented) Process according to claim 26, wherein the impregnation step b1) is carried out with a solution containing a wood preservative in an amount up to 2.5% in weight.

29. (Currently Amended) Process according to claim 26, wherein the impregnation step b3) is carried out with a solution containing 5 to 12% in weight of

polymerizable reactive groups having a reactive double bond ~~or issued from a compound having a reactive double bond.~~

30. (Previously Presented) Process according to claim 29, wherein the solution of step b3) further comprises from 0.04 to 0.12% in weight of the wood preservative of step b1).

31. (Currently Amended) Process according to claim 27, wherein the impregnation step bb1) is carried out with a solution comprising from 2 to 5% in weight of polymerizable reactive groups having a reactive double bond ~~or issued from a compound having a reactive double bond,~~ from 2.0 to 2.6 % in weight of wood preservative.

32. (Currently Amended) Process according to claim 26, ~~wherein the further comprising a cooling step~~ [[is]] of the wooden elements obtained from step b2) carried out for a period of at least 1 to 12 hours.

33. (Currently Amended) Process according to claim 25, wherein ~~it~~ the process further comprises after step b4) or bb2), a drying steps of the wooden elements obtained from steps b4) or bb2).

34. (Canceled)

35. (Previously Presented) Process according to claim 34, wherein the water-borne wood preservative is selected from the group consisting of Ammoniacal Copper Quat., copper azole, Ammoniacal Copper Arsenate and Chromated Copper Arsenate.

36. (Canceled)

37. (Currently Amended) Process according to claim 29, wherein the reactive groups are selected from the group consisting of allyl group, vinyl group, acrylate group, methacrylate group and polymers comprising at least one group selected from the group consisting of allyl group, vinyl group, acrylate group and methacrylate group.

38. (Previously Presented) Process according to claim 37, wherein said reactive groups are polyethylene glycol diacrylate or polyethylene glycol dimethacrylate.

39. (Currently Amended) Process according to claim 38, wherein said reactive groups are polyethylene glycol diacrylate or polyethylene glycol dimethacrylate, having a molecular weight ~~comprised~~ between 600 and 10000 daltons.

40. (Previously Presented) Process according to claim 25, wherein the moisture content of the wooden element obtained from step a) is comprised between 15 and 35%.

41. (Previously Presented) Process according to claim 40, wherein the moisture content of the wooden element obtained from step a) is comprised between 24 and 26%.

42. (Previously Presented) Process according to claim 25, wherein the drying step a) is selected from the group consisting of kiln drying, air drying and air seasoning.

43. (Currently Amended) Process according to claim 25, wherein the amount of the wood preservative impregnated in the wooden elements is superior or equal to  $9.6 \text{ kg/m}^3$ , according to a standardized assay zone for analytical purposes as defined in CSA-O80 and AWWA C-4 standards.

44. (Currently Amended) Process according to claim 25, wherein the amount of the polymerizable reactive groups impregnated in at least 13 mm outer portion of the wooden elements is ~~comprised~~ between 10 and  $40 \text{ kg/m}^3$  of the wooden elements.

45. (Currently Amended) Treated wooden elements ~~whenever~~ obtained according to the process of claim 25.